

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-48. (canceled)

49. (new) A medical balloon, comprising:

an expandable balloon including an inner layer and an outer layer;

wherein the balloon includes a proximal waist, a proximal cone, a body portion, a distal cone and a distal waist;

wherein the inner layer has a greater thickness in the body portion than in the proximal waist; and

wherein the outer layer has a lesser thickness in the body portion than in the proximal waist.

50. (new) The medical balloon of claim 49, wherein a sum of the thicknesses of the inner and outer layers is constant over the length of the balloon.

51. (new) The medical balloon of claim 49, wherein the inner and outer layers each have a constant thickness in the body portion, in the proximal and distal waists, and in the proximal and distal cones.

52. (new) The medical balloon of claim 49, wherein the inner and outer layers each have respective thicknesses that vary only in the transitions between adjacent sections along the length of the balloon, the sections including the proximal waist, the proximal cone, the body portion, the distal cone and the distal waist.

53. (new) The medical balloon of claim 49, wherein in the body portion, the inner layer has a greater thickness than the outer layer.

54. (new) The medical balloon of claim 49, wherein in the proximal and distal waists, the outer layer has a greater thickness than the inner layer.

55. (new) The medical balloon of claim 49, wherein the inner and outer layers are formed from different polymer compositions.

56. (new) The medical balloon of claim 55, wherein the outer layer is less stiff, more flexible, more compliant, and is formed from a lower durometer polymer than the inner layer.

57. (new) The medical balloon of claim 56, wherein the outer layer is formed from a more amorphous polymer than the inner layer.

58. (new) The medical balloon of claim 49, wherein the body portion has higher strength and lower elasticity than the proximal and distal waists and the proximal and distal cones.

59. (new) The medical balloon of claim 49, wherein the outer layer is disposed substantially entirely on the inner layer.

60. (new) A balloon catheter, comprising:
a catheter shaft having a longitudinal axis;
an expandable balloon including inner and outer layers that extend substantially along a length of the balloon;

wherein the length of the balloon includes a proximal waist, a proximal cone distal to the proximal waist, a body portion distal to the proximal waist, a distal cone distal to the body portion, and a distal waist distal to the distal cone;

wherein the proximal and distal waists are attached to the catheter shaft;
wherein during expansion of the balloon, the body portion expands radially, the proximal and distal waists do not expand radially, and the proximal and distal cones extend from the body portion to the proximal and distal waists, respectively;

wherein the inner layer has a greater thickness in the body portion than in the distal waist;
and

wherein the outer layer has a lesser thickness in the body portion than in the distal waist.

61. (new) The balloon catheter of claim 60, wherein a sum of the thicknesses of the inner and outer layers is constant over the length of the balloon.

62. (new) The balloon catheter of claim 60, wherein the inner and outer layers each have a constant thickness in the body portion, in the proximal and distal waists, and in the proximal and distal cones.

63. (new) The balloon catheter of claim 60, wherein the inner and outer layers each have respective thicknesses that vary only in the transitions between adjacent sections along the length of the balloon, the sections including the proximal waist, the proximal cone, the body portion, the distal cone and the distal waist.

64. (new) The balloon catheter of claim 60, wherein in the body portion, the inner layer has a greater thickness than the outer layer.

65. (new) The balloon catheter of claim 60, wherein in the proximal and distal waists, the outer layer has a greater thickness than the inner layer.

66. (new) The balloon catheter of claim 60, wherein the outer layer is less stiff, more flexible, more compliant, is formed from a lower durometer polymer than the inner layer, and is formed from a more amorphous polymer than the inner layer.

67. (new) The balloon catheter of claim 60, wherein the body portion has higher strength and lower elasticity than the proximal and distal waists and the proximal and distal cones.

68. (new) A medical balloon, comprising:

- an expandable balloon including inner and outer layers that extend substantially along a length of the balloon;
- wherein the length of the balloon includes a proximal waist, a proximal cone distal to the proximal waist, a body portion distal to the proximal waist, a distal cone distal to the body portion, and a distal waist distal to the distal cone;
- wherein during expansion of the balloon, the body portion expands radially, the proximal and distal waists do not expand radially, and the proximal and distal cones extend from the body portion to the proximal and distal waists, respectively;
- wherein the inner layer has a greater thickness in the body portion than in the proximal waist;
- wherein the outer layer has a lesser thickness in the body portion than in the proximal waist;
- wherein a sum of the thicknesses of the inner and outer layers is constant over the length of the balloon;
- wherein in the body portion, the inner layer has a greater thickness than the outer layer; and
- wherein in the proximal waist, the outer layer has a greater thickness than the inner layer.